

Docket No.: 61842CIP(51035)  
(PATENT)

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re Patent Application of:  
Gene Probasco et al.

Application No.: 10/805,876

Confirmation No.: 9875

Filed: March 22, 2004

Art Unit: 1615

For: **PESTICIDE AND FUNGICIDE TREATMENTS  
MADE FROM HOP EXTRACTS** Examiner: N. S. Levy

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

**DECLARATION OF GENE PROBASCO UNDER 37 C.F.R. § 1.132**

I declare as follows:

1. I, Gene Probasco, do hereby declare that I am an inventor on the present application. My experience and professional background are summarized below. I received an undergraduate degree in biology from Central Washington University and a Master of Science degree in plant pathology from Washington State University. After graduation, I spent six years at Washington State University where I conducted research on hop breeding and hop diseases. For the past 20 years I have been a Vice President for John I. Haas, Inc. where I am responsible for hop production on the company's hop farms in the U.S. After joining John I. Haas, Inc., I started the first private hop breeding program in the U.S.. I have patented and released a number of new hop varieties into the U.S. hop industry several of which constitute major varieties. I represent John I. Haas as a member of the Hop Research Council and have in the past served the Council as Chairman of the Budget Committee, Vice President and President. In addition, I have conducted agronomic research for the U.S. hop industry and more recently have been conducting

research on the use of hop products for non-brewing purposes. I respectfully submit that I am qualified to speak and render opinions as to the disclosure in the present application.

2. I am familiar with the Office Action mailed September 16, 2009, issued by the United States Patent and Trademark Office in connection with the present application and make this Declaration in response thereto.
3. I supervised a confidential field trial using a beta acid emulsion to determine whether beta acids could control two-spotted spider mites in a hop field. The field tests involved applying a 1% beta acid emulsion to three plots at the rate of 20, 100 and 200 gallons per acre, respectively. The beta emulsion was applied by spraying on to the field on June 20, June 26, July 3, July 10, and July 26.
4. Two control plots were treated with commercially available pesticides such as Agrimek™, Fujimite™, and Acramite™. Agrimek™ was applied to the control plots on June 14. Fujimite™ was applied to the control plots on June 21 and July 11.
5. After the June 20 application of beta acid emulsion, hop leaves were examined under a dissecting scope. The scope revealed a 100% kill rate for the 100 and 200 gallon applications. The 15 gallon application resulted in a 50% or less kill rate after 24 hours.
6. One week after application of the beta acid emulsion, mite eggs hatched on the leaves that received the 100 and 200 gallon applications. The leaves that had received the 15 gallon application still had adults present.
7. A visual inspection of leaves in the lab 30 hours after the June 26 application showed 100% kill rate following the 200 gallon application. 90% kill rate was observed following the 100 gallon application. Less than 50% kill rate was observed following the 15 gallon application.
8. Prior to the July 3 spray application, a pre-spray visual inspection in the plots revealed the presence of mites in all rows. More mites were present in the control plots that had been treated with conventional miticides than in the plots that had been treated with beta acids.
9. A visual inspection after the July 3 spray showed 100% kill rate following the 200 gallon application. A 100% kill rate was observed following the 100 gallon application. A 50% kill rate was observed following the 15 gallons. Mites were present in control fields following treatment with conventional miticides.

10. A visual inspection on July 6, three days after the July 3 application of beta acids, showed that no living mites were present in the plot that received the 200 gallon spray application. Few live mites were observed in the plot that received the 100 gallon spray application. More living mites were present in the plot that received the 15 gallon spray application. The control plot had more mites than the plot that received the 15 gallon spray application, but fewer than the plots that received the 100 and 200 gallon spray applications. Leaves collected prior to spray application and maintained in the lab continued to have large numbers of mites present.
11. On July 16, six days after the July 10 application of beta acids, a visual inspection of leaves six feet above the base of the vine, showed that the beta acid spray applications were very effective in killing mites on both main and lateral leaves of the hop vine. Very few mites were observed in plots that received the 100 and 200 gallon spray applications. The 15 gallon spray application was less effective in controlling mites on main and lateral leaves.
12. On July 24, approximately two weeks after the July 10 application of beta acids, a visual inspection of leaves 8 feet above the base of the vine was conducted. The plot that received the 100 and 200 gallon beta acid application continued to show good mite control on both the main vine and lateral leaves. Although some live mites were observed, these mites were generally young suggesting they had recently hatched.
13. On July 27, one day after the July 26 beta acid application, leaves from the top of the plants were examined. An 85% mite kill rate was observed for leaves at the top of the vine following the 100 and 200 gallon application. Live mites were observed in the plot that received the 15 gallon beta acid application.
14. In sum, the 100 and 200 gallon applications killed mites at the rate of 100% on lower hop leaves and 85% on upper leaves after each application. The 15 gallon application was less effective at controlling mites.
15. I have thoroughly reviewed the table provided at page 12 under the heading "Field Trial Using Beta To Control Two Spotted Spider Mites In Commercial Hops." To the extent that the results presented herein may differ from those provided at the Table on page 12 of Applicants' specification, the Table is in error. This error was made without deceptive intent.

16. I further declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and, that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful statements may jeopardize the validity of the application or any patent issued thereon.

Dated 1/19/10

By: Gene Probasco  
Gene Probasco